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Accidents.

Publications relating to accident prevention and safety. Washington, D. C. n.d. 4 p. U.S. Department of Commerce. National Bureau of Standards. Letter circular Lc 60 revised.

"Safe at home"?? Architectural Record. v. 82, no. 3. September, 1937. p. 118. Last year 38.500 people were killed, 170,000 permanently disabled, and 5,620,000 injured as a result of accidents in and about the home

Agriculture.

Importance of agriculture to life of nation. By Chris L. Christensen. Better Farm Equipment and Methods. v. 10, no. 1. September, 1937. p. 67, 30.

Report of the Kansas State board of agriculture for the quarter ending March, 1937. Topeka, Kansas, Kansas state board of agriculture, 1937. 121 p. Soil treatments as safeguards against drought. By R.I. Throckmorton. p. 61-69. Water conservation and utilization, farm ponds and supplemental irrigation. By Geo. S. Knapp. p. 69-73.

Science points the way. Work of the Agricultural experiment station during the year ending June 30, 1936. By F.B. Mumford and S.B. Shirky. Columbia, Missouri, 19 37. University of Missouri. College of agriculture. Agricultural experiment station. Bulletin 387.

Taking the if out of farming. Popular Mechanics. v. 67, no. 5. May, 1937. p. 666-669, 156A, 160A, 162A.

Year book of agriculture. 1937. U.S. Department of Agriculture. Washington, U.S. Govt. print. off., 1937. 1197 p.

Air Conditioning.

Installation code for air conditioning revised by fire protection group. Heating and Ventilating. v. 34, no. 7. July, 1937. p. 53-58. Rapid developments in the art have made necessary revision of code for installation of blower systems, including air conditioning and exhaust systems, adopted in 1936 by National Fire Protection Association. Revised code, adopted at Association's annual meeting in May, contains a new section - that on warm air heating and air conditioning in residences.

Air Conditioning. (Cont'd)

Practical standards for air conditioning calculations. By W.S. Bodinus. Heating, Piping and Air Conditioning. v. 9, no. 9. September, 1937. p. 553-554. Outside air requirements and refrigeration load.

Residential air conditioning systems. By Brewster S. Beach. Architectural Record. v. 82, no. 3. September, 1937. p. 112-115.

Alcohol Fuel.

Agrol gasoline. By E.L. Barringer. National Petroleum News. v. 29, no. 35. September 1, 1937. p. 25-28. Alcohol-gasoline has emerged from motor fuel sold in scattered sections of Middle West several years ago as a practical demonstration of farmer raising his own "feed" to a grade of gasoline marketed by jobbers under brand name "Agrol." Gasoline pumps today are offering Agrol motor fuel at stations in Missouri, Kansas, Nebraska, Iowa, Minnesota and the Dakotas. Much of this motor fuel is offered motorist as competitor to "regular," and in some cases as premium gasoline. Jobbers are selling the fuel, partly to aid movement for new uses of farm products, partly to have new and different motor fuel.

Building Construction.

Brick laying to avoid leaks. By D. E. Parsons. American Builder. v. 59, no. 9. September, 1937. p. 76-77, 132, 134. Report gives brief description of investigation of permeability of walls of brick masonry when exposed to conditions resembling those produced by wind-driven rains. Investigation was conducted at National Bureau of Standards in cooperation with four other governmental agencies. Variable factors included three different kinds of bricks, five mortar mixtures, four classes of workmanship, in addition to variations in thickness and design of walls. Results indicate that quality of workmanship affected permeability more than any other factor. Best performance was obtained with walls having well-filled mortar joints, built with mortars of good working properties, and bricks which either were non-absorptive or were well wetted before laying.

How dry I am! By Carl Sigman and William J. Ward, Jr. Better Homes and Garden. v. 15, no. 9. May, 1937. p. 34-35, 106-107.

Itemize home building costs. Better Farm Equipment and Methods. v. 10, no. 1. September, 1937. p. 16. Studies of cost averaged from data compiled from twenty recently constructed modern homes by Southern Pine Association, show that the cost of mill work, lumber, flooring and roofing averages a little over 25 percent of total cost of home. Carpentry runs from 18 to 19 percent; plumbing from 8 to 9 percent; excavation, foundations, and concrete from 8 to 9 percent; paint 6½ percent; plastering 5 percent; brick work 3½ to 4 percent; wiring 2 percent; hardware 2 percent; lighting fixtures 1½ to 2 percent; and sheet metal 1 percent. Remainder is contractor's expense and profit.

Building Construction. (Cont'd)

New development in roofing nails. By James S. Maze. Agricultural Engineering. v. 18, no. 9. September, 1937. p. 405-406. Bill for excessive roof depreciation on farms, due to improper nails, now amounts to about 20 million dollars annually.

Building Materials.

Materials handbook; an encyclopedia for purchasing agents, engineers, executives, and foremen. Third edition. By George S. Brady. New York, McGraw-Hill book company, inc., 1937. 661 p.

To test building materials for low cost housing. Brick & Clay Record. v. 91, no. 3. September, 1937. p. 119-122. Congress recently granted to National Bureau of Standards, the sum of $198,000 for year 1937-1938, to study properties and suitability of building materials, with particular reference to their use in low-cost housing Money is to be used in research program wherein following requirements will be fulfilled: Results should be made available to public. Studies will be made on materials already in use in low cost housing field, as well as on new materials and methods. Minimum technical requirements should be established for elements of low-cost house. Tests should be under service conditions, as far as possible, and should include effect of different materials in contact. Influence of obsolete building codes in restricting use of new types of construction should be determined. Useful life of each type of construction should be determined.

Coal Bins.

How to build modern coal bins. American Builder. v. 59, no. 9. September, 1937. p. 74-75. Details and suggestions for building enclosed fuel bins suitable for new houses or for modernizing old ones.

Cold Storage Plants.

Survey of fruit cold storage plants in central Washington. By H.J. Dana. Pullman, Washington, 1928. 35 p. State college of Washington. Engineering experiment station. Bulletin no. 26.

Colorado River.

Delta, estuary, and lower portion of the channel of the Colorado river 1933 to 1935. By Godfrey Sykes. Washington, D.C., Carnegie institution of Washington, 1937. 70 p.

Cotton Machinery.

Iron fingers come to Dixie. By Stanley Andrews. Arkansas Farmer. v. 39, no. 21. September, 1937. p. 6-7.

Manual of mechanical processing of cottonseed with bibliography and report of research investigations. By W.R. Woolrich and E.L. Carpenter. Knoxville, Tenn., University of Tennessee. Engineering experiment station, 1935. 154 p.

Dams.

Drop inlet soil saving dams. By E.R. Jones. Agricultural Engineering. v. 18, no. 9. September, 1937. p. 407-411, 413. Factors contributing to its value are: 1. Acreage of low-slope agricultural land threatened by advancing gully. 2. Inconvenience that would result to farms if cut into segments by gully. 3. Menace to building sites and highways if advance of gully is not stopped. 4. Downstream damage of debris washed out of gully.

Progress reported on earth dams. Engineering News-Record. v. 119, no. 13. September 23, 1937. p. 494. Of seventeen dams in PWA-assisted program four are completed and eleven underway.

Drainage.

Land drainage in Pennsylvania. By John R. Hawell. State college, Pennsylvania, 1927. 23 p. Pennsylvania state college. School of agriculture and experiment station. Circular 112.

Droughts.

Drought of 1930 in Pennsylvania. Commonwealth of Pennsylvania. Department of forests and waters. J.W. Mangan, Chief Division of Hydrography. Harrisburg, Pennsylvania, 1937. 22 p. Prepared in cooperation with the United States Geological Survey.

Drying of Crops.

Economic aspects of agricultural-product drying. By Charles W. Thomas. Mechanical Engineering. v. 59, no. 9. September, 1937. p. 671-672. Artificial drying is of inestimable value in connection with carrying over of surpluses and equalizing differences in crops from one period to another. Government should find in artificial drying good ally in realization of its new granary program as well as in carrying out its soil-conservation and price-regulation policy.

Technical aspects of agricultural-product drying. By Arnold Weisselberg. Mechanical Engineering. v. 59, no. 9. September, 1937. p. 673-677. Belt driers, of both simple and multiple type, have undergone considerable improvement in recent years. Better streamlining of air passages and increased reheating zones have contributed to higher efficiency and increased output. A recent improvement in steam-tube driers, relating to more positive scraping of tubes, to prevent overheating, will extend application of this drier to more sensitive products which must be quality dried. Application of spray drying to agricultural product is, of course, limited. For low-grade products, the rotary drier will continue to hold its own. New type that was recently introduced, which appears suitable for better grade products is louver drier.

Electric Plants.

Homemade six-volt wind-electric plants. By H.F. McColly and Foster Buck. Fargo, North Dakota, 1935. 19 p. North Dakota agricultural college. Agricultural experiment station. Circular 58.

Electric Services, Rural

Streamlining for electrification. By Ben Kilgore. Nation's Agriculture. v. 12, no. 10. August-September, 1937. p. 3, 10.

Survey reveals 20% of farmers near lines do not take service. Electrical World. v. 108, no. 10. September 4, 1937. p. 5. Edison Electric institute report shows that 1,420,635 farms are within reasonable connecting distance, but 282,300 are not using electricity. Kellogg reports 119,342 increase in farm customers.

Electricity.

Electrical engineers' handbook. Third edition rewritten. By Harold Pender and Knox McIlwain, editors. New York, John Wiley & sons, inc., 1936. 2. v. v. 1 - Electric power. v. 2. Electric communication and electronics.

Electricity in the Home.

Hot-water gauge operates electrically. Popular Mechanics. v. 67, no. 5. May, 1937. p. 775-776. Thermostatic switches at various levels on hot-water tank ring bell and light lamp when predetermined quantity of water has been heated.

Electricity on the Farm.

Electricity in horticulture. Electrical Review. v. 121, no. 3111. July 9, 1937. p. 53. Recent advances.

Engineering analysis of electrical uses on the farm. Presented to Fourteenth annual meeting Committee on the relation of electricity to agriculture. Compiled by E.A. White and J.P. Schaenzer. Chicago, Illinois, 1937. 62 p.

Fourteenth annual report to the Committee on the relation of electricity to agriculture. By E.A. White. Chicago, Illinois, 1937. 14 p.

More profit from the farm electrically. Atlantic City, N.J. Atlantic City electric company, 1937. 15 p.

Portable electric drill. By Albert V. Krewatch. Electrical Ruralist. v. 1, no. 5. September, 1937. p. 7.

Electro-horticulture.

Electro-horticulture. Electrical Times. v. 92, no. 2391. August 19, 1937. p. 231-232. Practical progress in development of plant and equipment.

Electro-horticulture. (Cont'd)

Electro-horticulture. By Frank H. Slade. Rural Electrification. v. 13, no. 147. August, 1937. p. 4-7.

Erosion Control.

Anchoring farmlands in the Ohio valley region. By J.S. Cutler. Washington, D.C., U.S. Department of agriculture. Soil conservation service. Region three, 1937. 19 p.

Punjab plans a coordinated attack. By Guy R. Stewart. Soil Conservation. v. 3, no. 1. July, 1937. p. 14-17, 21.

Soil erosion and its control. By George Roberts, Earl G. Welch and J.B. Kelley. Lexington, Kentucky, 1937. 55 p. University of Kentucky. College of Agriculture. Extension division. Circular no. 304.

Evaporation.

Evaporation loss in covered reservoirs. By A.A. Young. Engineering News-Record. v. 119, no. 11. September 9, 1937. p. 432-434. Study of evaporation characteristics of covered reservoirs with limited ventilation indicates that little water is conserved through use of roof structures.

Extension.

How extension work in Maine began. By Clarence A. Day. Orono, Maine, 1937. 23 p. University of Maine.College of Agriculture. Extension service. Bulletin no. 240.

Farm Buildings.

Farm structures research as a basis for promotion. By Henry Giese. Agricultural Engineering. v. 18, no. 9. September, 1937. p. 412-413.

Rural community buildings. By D.E. Lindstrom, W.A. Foster, and Max G. Fuller. Urbana, Illinois, 1937. 58 p. University of Illinois. College of agriculture. Agricultural experiment station and extension service in agriculture and home economics. Circular 470.

Smoke houses. By Roy W. Snyder and M.R. Bentley. College station, Texas, 1935. 4 p. Agricultural and mechanical college of Texas. Farm and home hints no. 329.

Farm Income.

Buying power of farm income near pre-depression years. By C.M. Purves. Agricultural Situation. v. 21, no. 9. September 1, 1937. p. 17-18. Table shows relation between cash farm income and prices paid to farmers.

Farm Income. (Cont'd)

Farmer's buying power on par with 1929. Implement Record. v. 34, no.9. September, 1937. p. 26. Cash receipts from sale of principal farm products and Government payments for first six months of each calendar year 1929-1937, and buying power of each period's receipts.

Farm Machinery and Equipment.

Contour furrows simplified. By Edgar V. Collins and Merle W. Bloom. Agricultural Engineering. v. 18, no. 9. September, 1937. p.402. Objective sought in designing and building experimental machine was to provide comparatively simple means of building contour ridges in sodded pastures without destroying any of sod, and leaving minimum of unsodded earth exposed. Journal paper no. J 463 of the Iowa Agricultural experiment station, Ames, Iowa.

Dependable corn pickers remove worries. Better Farm Equipment and Methods. v. 10, no.1. September, 1937. p. 26.

Device to assist in mowing kudzu. By Ellis G. Diseker. Auburn, Alabama, 1937, 4 p. Alabama polytechnic institute. Agricultural experiment station. Leaflet no. 16.

Efficient diggers insure crop. Farm Machinery & Equipment. no. 1844. August 15, 1937. p. 11. Discussion of potato diggers.

Graphic summary of farm machinery, facilities, roads, and expenditures (Based largely on the census of 1930 and 1935). By O.E. Baker. Washington, D.C. Govt. print. off., 1937. 33 p. U.S. Department of Agriculture. Miscellaneous publication no. 264.

Latest farm equipment census. Better Farm Equipment and Methods. v. 10, no. 1. September, 1937. p. 8-9. Manufacture and sale of farm equipment and related products compares with years 1931 and 1935. Table gives value of farm equipment and related products manufactured and sold, by classes: 1936, 1935 and 1931.

Quick-on and quick-off power-farming equipment. Agricultural Engineering. v. 18, no. 9. September, 1937. p. 389-395. Contributions by R.H. Wileman, C. W. Mott, G.D. Jones, Geo. H. Nystrom, D.C. Heitshu.

Farm Mechanics.

Directions for making a halter. College station, Texas, 1935. 2 p. Agricultural and mechanical college of Texas. Extension service. Leaflet 15.

Farm shop has value. By Elmer J. Johnson. Western Farm Life. v. 39, no. 16. August 15, 1937. p. 18. Doing timely repair jobs saves money; definite shop arrangement recommended.

Farm Mechanics. (Cont'd)

Making and using leather belts on the farm. By M.K. Thornton, jr. College station, Texas, 1935. 5 p. Agricultural and mechanical college of Texas. Extension service. Farm and home hints no. 341.

Rope and its uses. By A.A. Burger. Fargo, North Dakota, 1936. 32 p. North Dakota agricultural college. Extension service. Circular 144.

Farm Motors.

Electric motors. Their selection and control for farm use. By B.P. Hess. Better Farm Equipment and Methods. v. 10, no. 1. September, 1937. p. 4-5, 32, 34. Table gives K.W.H. consumption of electric motors on various farm jobs.

Flax.

Flax in Oregon. A history of the development of the flax industry in Oregon including the construction of three state sponsored retting and scutching plants by the W.P.A. Portland, Oregon, Works progress administration, n.d. 16 p.

Should flax be grown in Utah. By R.W. Woodward, D.C. Tingey, and A.C. Dillman. Logan, Utah, 1937. 12 p. Utah state agricultural college. Agricultural experiment station. Bulletin 278.

Floods and Flood Control.

Farmer and engineer form new partnership for flood control. By M.S. Eisenhower. Extension Service Review. v. 8, no. 9. September, 1937. p. 136-137. For the first time, comprehensive plan is being outlined for attack from different angles on twin problems of flood control and keeping soil at home. Tells how flood-control efforts are being coordinated and intensified.

Floors.

Finishing floors, walls and woodwork. By Mrs. Bernice Claytor. College Station, Texas, 1936. 8 p. Agricultural and mechanical college of Texas. Extension service. Circular 112.

Hay Drying.

New rotary grass drier. Implement & Machinery Review. v. 63, no. 749. September, 1, 1937. p. 482-483. Complete plant consists of power unit, feeding table, elevator, furnace, feeding chamber, drum, fan, and delivery chute. Feeding elevator and fan are belt driven from power unit, while drum, which takes its motive power from same source, is finally driven by two small friction rollers, and is borne on these and two companion idle rollers at opposite side.

Hay Handling.

Putting hay up-to-date. By Samuel R. Guard. Country Home. v. 61, no. 7. July, 1937. p. 16-18.

Heating.

Factors in selection of an oil burner. By Arthur H. Senner. Heating and Ventilating. v. 34, no. 8. August, 1937. p. 55-57.

Technical problems in analyzing fuel consumption. By W.S. Bard. Heating, Piping, and Air Conditioning. v. 9, no. 9. September, 1937. p. 541-544.

Hotbeds.

Hotbeds for home gardens. By J.F. Rosborough. College station, Texas, 1937. 4 p. Agricultural and mechanical college of Texas. Extension service. Circular 110.

Houses.

House you planned. By Lewis E. Welsh. Country Home Magazine. v. 61, no. 9. September, 1937. p. 16-17.

Small homes of burned clay masonry meeting requirements for F.H.A. insured financing. Washington, D.C., Structural clay products institute, inc., 1937. 8 p. Meet requirements for F.H.A. insured financing.

Hydraulic Rams.

Supply water with a ram. By Elmer O. Johnson. Western Farm Life. v. 39, no. 15. p. 6. This type of water pump is giving efficient, low-cost convenience in the West.

Insect Control.

Mosquito control in the mountains. By H.H. Stage. Engineering News-Record. v. 119, no. 12. September 16, 1937. p. 475-477. Vicious pests which hatch in melting snow pools are combatted with larvicide spray, drainage ditches and water level manipulation.

Proceedings of the twenty-fourth annual meeting of the New Jersey mosquito extermination association held at Atlantic City, New Jersey, March 17, 18 and 19, 1937. New Brunswick, N.J. 1937. 236 p.

Insulation.

Cornstalk acoustical board. By L.K. Arnold, H.J. Plagge, and D.E. Anderson. Ames, Iowa, 1937. 47 p. Iowa state college of agriculture and mechanic arts. Engineering experiment station. Bulletin 137.

Insulation. (Cont'd)

Note on the testing of aluminum foil insulation. By J.D. Babbitt. Heating, Piping and Air Conditioning. v. 9, no. 9. September, 1937. p. 577-579. Table 1 - Test results of aluminum foil insulation with various air cell heights.

Poultry house insulation and ventilation. By H.L. Richardson. Orono, Maine, 1937. 16 p. University of Maine. College of agriculture. Extension service. Bulletin no. 216 (revised.)

Studies on the manufacture of insulating board. By O.R. Sweeney and L.K. Arnold. Ames, Iowa, 1937. 75 p. Iowa state college of agriculture and mechanic arts. Engineering experiment station. Bulletin 136.

Inventions.

How inventions will influence future business. By Theodore M. Knappen. Magazine of Wall Street. v. 60, no. 10. August 28, 1937. p. 582-583, 624-626. Discussion of report by National Research Committee.

Irrigation.

Big irrigation system installed. By Paul Work. Market Growers Journal. v. 61, no. 5. September 1, 1937. p. 382-383. Rotary sprinklers and light pipes employed on 130 acre area on Long Island.

Fertilizer sprayed through irrigation lines. By C.W. Skinner. Market Growers Journal. v. 51, no. 6. September 15, 1937. p. 400-401.

Five irrigation projects planned in Montana. Engineering News-Record. v. 119, no. 13. September 23, 1937. p. 526. Montana State Water Conservation Board is completing plans for five irrigation projects, based on PWA allotment of $1,885,000 of which $984,000 is a grant. Largest project, estimated to cost $776,000 involves construction of three earth and rock-fill dams on Musselshell River for water storage and flood control, $449,000 project provides for earth and rock-fill dam on West fork of Bitter Root River, 20 miles South of Darby. New Reservoir would increase water supply available for present irrigated districts. $258,000 earth and rock-fill dam on Nevada Creek provides flood control and supplementary water storage. Fourth undertaking is construction of pumping units to distribute water from Yellowstone River over 4,668 acres near Sidney at a cost of $98,000, and fifth provides for enlarging and extending old irrigation canal near Columbus at cost of $56,364.

Irrigation requirements of cotton and grain sorghum in the Wichita valley of Texas. By C.H. McDowell. College station, Texas, 1937. 32 p. Texas agricultural experiment station. Bulletin no. 543.

Irrigation. (Cont'd)

More land to be irrigated in Idaho. Western Farm Life. v. 39, no. 16. August 15, 1937. p. 13. At least one of numerous new canal and reservoir projects proposed to supplement water supplies on Idaho's extensive irrigated lands is being carried to completion and will probably reach fulfillment by spring of 1939, engineers state. This is 26-mile canal costing $2,600,000 to carry water from Black Canyon diversion dam on Payette river to irrigate 48,000 acres of now sagebrush land, now arid, in southwestern Idaho.

Kitchens.

Attractive kitchens. By Julia Pond and Helen Noyes. East Lansing, Michigan, 1937. 10 p. Michigan state college. Extension division. Bulletin 182.

Convenient kitchens. By Julia Pond and Helen Noyes. East Lansing, Michigan, 1937. 31 p. Michigan state college. Extension division. Bulletin 185.

Lighting.

Investigation of student study lighting. By John O. Kraehenbuehl. Urbana, Illinois, 1937. 35 p. University of Illinois. Engineering experiment station. Circular no. 28.

Problems in building illumination. By John O. Kraehenbuehl. Urbana, Illinois, 1937. 28 p. University of Illinois. Engineering experiment station. Circular no. 29.

Laundry Equipment.

Modern laundry equipment supplies, and methods. By Julia Pond and Helen Noyes. East Lansing, Michigan, 1937. 19 p. Michigan state college. Extension division. Bulletin 184.

Maps.

Technique in mapping as related to land use, as developed for the Rio Grande joint investigation. By Fred C. Scobey. Agricultural Engineering. v. 18, no. 9. September, 1937. p. 397-401.

Miscellaneous.

Our cities; their role in the national economy. Report of the Urbanism committee to the National resources committee. June, 1937. Washington, U.S. Govt. print. off., 1937. 88 p.

Yearbook. August, 1937. American Society for Testing Materials. Philadelphia, Pa., 1937. 268 p.

Pest Control.

Successful gopher control contest. By Henry Frauenfelder. Reclamation Era. v. 27, no. 9. September, 1937. p. 206.

Plows and Plowing.

Plows six feet deep. Farm Machinery & Equipment. no. 1844. August 15, 1937. p. 11. Hydraulically operated and requiring 150 tractor horsepower to pull it in dry, tough soil, it is definitely a plow with a purpose. Working six feet deep it is estimated that plow is constantly lifting and turning five running yards of soil as it moves through field. Hydraulic lift used to raise plow out of ground has pressure of 750 pounds to square inch, and is operated from tractor.

Pumps and Pumping.

Irrigation pumps. By O.W. Monson. Montana Farmer. v. 24, no. 21. August 1, 1937. p. 6.

Reclamation.

Appropriations for Bureau of Reclamation for fiscal year 1938. Reclamation Era. v. 27, no. 9. September, 1937. p. 202-204.

Rehabilitating the dust bowl. By John E. Field. Civil Engineering. v. 7, no. 9. September, 1937. p. 609-613. Drought in so-called "Dust Bowl" area of Great Plains reached one-hundred year climax in period 1931-1935, when succession of dust storms rendered hundreds of square miles of farming land apparently useless for agriculture. Some of the more arid parts of this region should never have been put under cultivation, but soil is of good quality and produces well where irrigation is provided. Since there is shortage of settlers on irrigated lands, movement of "drylanders" to such areas is plainly indicated. Furnishing of supplemental water supplies to partially irrigated areas is also favored by Mr. Field, who shows that projects for land reclamation, and for abandonment of dry or marginal farms are not inconsistent but mutually dependent. Turning next to agricultural problems in Great Plains area as a whole, he recommends return to grazing uses.

Refrigeration.

New data aids refrigeration piping design. By R.C. Doremus. Heating, Piping and Air Conditioning. v. 9, no. 9. September, 1937. p. 533-536, 547. Basic data on design and installation of piping for industrial and commercial refrigeration work and air conditioning are presented.

Refrigeration on cars, trucks, etc.

Development in the heating of refrigerator cars. By C.D. Niven and J.L. Townshend. Ice and Refrigeration. v.93, no. 3. September, 1937. p. 191-193. Detailed account of experiments and results obtained in maintaining even temperatures in refrigerator cars during cold weather. Improved control provided.

Refrigeration on cars, trucks, etc. (Cont'd.)

Refrigerating unit for truck uses "dry ice" and alcohol. Popular Mechanics. v. 67, no. 5. May, 1937. p. 700. Dry ice chills alcohol which circulates on thermo-siphon principle through system containing cooling surface similar to that of automobile radiator. Small electric fans blow air downward through this radiator onto payload. As chilled alcohol is warmed by this air, it automatically rises in system and its place is taken by colder alcohol freshly drawn from bottom of insulated Dry Ice compartment. Process continued until temperature in truck reaches level at which thermostat is set, at which point a valve stops circulation of alcohol. Only power required for operating unit is that taken from truck storage battery to drive small fans.

Refrigerator Lockers.

Chain of cold storage locker plants. Ice and Refrigeration. v. 93, no. 3. September, 1937. p. 190.. What is proposed to become the first of chain of twenty to thirty cold storage locker plants will be under construction in Enumclaw, Wash., soon according to newspaper reports. Group of men in that city have formed company to be known as Arctic Lockers, Inc., to construct and operate this type of business in a number of Washington towns as rapidly as locations can be acquired and plants erected. In addition to having the first of these plants established there, Enumclaw will be the headquarters and home office of the company. It will be the purchasing headquarters and is also expected to employ a considerable office force when in full stride. New plant will be erected at corner of Cole and Washington Streets. Temporary offices are located at 1129 Griffin Avenue. Plant will contain 800 lockers in addition to main offices of company.

Research.

Comparative study of the statistical methods most commonly used in agricultural research. By Bernardo G. Capo. Journal of Agriculture of University of Puerto Rico. v. 21, no. 2. August, 1937. p. 201-224.

Engineering the household. By P.B. Potter. Agricultural Engineering. v. 18, no. 9. p. 403-404, 406. Household engineering research seems to fall into four separate phases. First, testing of equipment which should give considerable information, and what is more important, should lead to side problems, that may have deeper research to them. We do not consider more testing as research, but only a step in procedure. Second, there is establishment of standards of performance by which all pieces of equipment may be compared and progress noted. Third, evaluation of factors in household processes. In this we seek to determine just how important any factor is and whether or not facts behind factor need to be established. Fourth, there is development of methods of research testing apparatus, or equipment itself. These are bound to be products of research laboratory if work airms deeper than just testing. Household equipment research must be based on broad

Research. (Cont'd)

program of testing, evaluation and development; must be done by high type of research talent; must be directed by both home economics and engineering viewpoints; and must be accomplished under soundest of research methods, if it is to produce unbiased and dependable information now being sought by consumers everywhere.

Research in engineering. By Alexander Gibb. Science. v. 86, no. 2228. September 10, 1937. p. 231-236.

Rubber Industry.

Rubber industry helps Southern farmers. Farm Machinery and Equipment. no. 1844. August 15, 1937. p. 7. America's rubber industry is one of the largest customers of the agricultural South, having used 375,000,000 pounds of cotton with estimated value of $52,500,000 last year, according to P.W. Litchfield, president of Goodyear Tire & Rubber Company. In review of world-wide organization required to make modern automobile tire, Mr. Litchfield estimates that consumption of crude rubber in United States in 1936 amounted to approximately 1,288,000,000 pounds valued at $211,103,200. To obtain enough rubber to make six-ply tire for low priced car two rubber trees must be tapped for whole year.

Silo Filling.

Smaller crews and lower costs. By E.W. Lehmann. Electricity on the Farm. v. 10, no. 9. September, 1937. p. 7-9. Use of electric power for filling silos has been practiced at University of Illinois for many years on both the dairy and livestock farms. However, practice had not been generally adopted throughout State because general desire to speed up operation, and the fact that many farmers have large cutters and tractors prompts them to use equipment at hand. In general it may be said that use of a small electric motor of five or seven and one-half horsepower capacity for silo filling results in use of smaller labor crew and in saving of labor, in reduced power costs, in convenience in starting and stopping, and in reduced number of accidents.

Silos.

Baked straw silos. By K.B. Huff. Columbia, Missouri, 1936. 2 p. University of Missouri. College of agriculture. Extension service. Leaflet 46.

Native lumber silos. By K.B. Huff. Columbia, Missouri, 1937. 4 p. University of Missouri. College of agriculture. Agricultural extension service. Circular 369.

Trench silos. By E.R. Eudaly and M.R. Bentley. College Station, Texas, 1936. 16 p. Agricultural and Mechanical College of Texas. Extension service. Bulletin 84.

Silt.

Transportation of detritus by flowing water - II. By F.T. Mavis, Te-Yun Liu and Edward Soucek. Iowa City, Iowa, 1937. 28 p. University of Iowa. Studies in Engineering. Bulletin 11.

Soil Sterilization, Electric.

Electric soil pasteurization. Electrical Times. v. 92, no. 2391. August 19, 1937. p. 229-230. Symposium of views, both scientific and practical.

Soils.

Studies on soil structure: some physical characteristics of puddled soils. By W.T. McGeorge. Tucson, Arizona, 1937. 177 p. University of Arizona. College of agriculture. Agricultural experiment station. Technical bulletin no. 67.

Spraying and Dusting.

Penetration of oil sprays. By P.H. Schweitzer. State College Pa., 1937. 78 p. Pennsylvania state college. Engineering experiment station. Bulletin no. 46.

Sterilizers.

Dairy utensil sterilizer. By H.J. Brueckner. Electrical Ruralist. v. 1, no. 5. September, 1937. p. 10, 15. Sterilizers designed for small dairy use are practical, economical, profitable.

Stream Flow.

Ohio stream flow. By C.V. Youngquist. Ohio. Engineering Experiment station News, v. 9, no. 4. October, 1937. p. 14-16. Typical river flow records during 1937.

Temperature.

Temperature distribution in two greenhouses. By R.H. Sogard. Heating & Ventilating. v. 34, no. 8. April, 1937. p. 50. Most recent greenhouse added at University of Missouri is 35 ft x 125 ft. isolated unit. To learn possibilities of more uniform temperature distribution in this house, convection heaters were installed instead of ordinary radiant heating equipment. Convection units installed are non-ferrous, each 96 inches long, there being 24 of them in house. To determine temperature distribution in this house and to compare it with temperature in radiant heated greenhouse, readings were taken at 25 points proportionately located in convection house and in 25 ft x 100 ft. house heated with radiant coils. Readings were taken at night, to eliminate sun effect, and outside temperature and wind conditions were same for all readings.

Tires.

Engineers discuss use of pneumatic tires on farm equipment. Farm Implement News. v. 58, no. 19. September 23, 1937. p. 20-21.

Farming on cushions. Pacific Farm Power. v. 1, no. 1. January, 1937. p. 8-9, 20-21.

Tractors.

Figuring tractor costs. By A.H. Gerbaz. Western Farm Life. v. 39, no. 13. July 1, 1937. p. 7, 27.

How long should you keep your tractor? Pacific Farm Power. v. 1, no. 1. January, 1937. p. 15-16. Table gives operating costs and credits for 7 tractors.

Small tractor meets needs of one-man farm. Popular Mechanics. v. 67, no. 5. May, 1937. p. 681. Handles standard implements in preparing soil and in harvesting crop. It has gasoline engine, automobile transmission, and differential, wheels equipped with special tread tires to improve traction and may be converted for certain jobs by installing lug chains. Built of standard parts tractor has surplus supply of power which makes it possible for operator to ride while cultivating. Operating costs are said to be five cents per hour.

Study of the operation of tractors and implements under farm conditions. By H.E.Murdock. Bozeman, Montana, 1937. 102 p. Montana state college. Agricultural experiment station. Bulletin no. 344.

Tractor operating costs. By A.J. Schwantes. St. Paul, Minnesota, 1937. 1 p. University of Minnesota. Agricultural extension division. Agricultural engineering news letter. no. 66.

Trail of the tractor. no.1845. September 15, 1937. p. 7-8. Peaks and valleys of tractor production and effect on number of farm animals shown by table and chart.

Tractor used as grasshopper catcher. By Frank M. Byers. Agricultural Engineering. v. 18, no. 9. September, 1937. p. 396. Under good conditions about 75 percent of hoppers may be collected by operating hopper "dozer" over fields once.

Walls.

Low cost two-unit wall construction. By H.R. Straight. Agricultural Engineering. v. 18, no. 8. August, 1937. p. 362.

Water, Underground

Records of ground water levels at wells for the year 1936. Precipitation records for the season 1935-36. Sacramento, Cal., 1937. 175 p. Department of Public Works. Division of Water Resources. South Coastal basin investigation. Bulletin no. 39-E. Mimeographed.

Water Conservation.

Mechanical methods of water conservation. By Paul C. McGrew. Implement Record. v. 34, no. 9. September, 1937. p. 22. Some of principal mechanical methods of water conservation used on pasture and range lands include contour furrows, diversion dams, flood irrigation, water spreading, dams to raise ground water table, and stock water dams.

Conservation and irrigation projects. New Agriculture. v. 19, no.11. August, 1937. p. 8. Gives number and estimated cost of WPA conservation projects placed in operation through March 31, 1937, by States.

Soil and water conservation in the Northern great plains. Washington, D.C., Govt. print. off., 1937. 19 p. U.S. Department of agriculture. Soil conservation service, region nine.

Water Purification.

Simple water purification for camps. By Frank B. King. Engineering News-Record. v. 119, no. 13. September 23, 1937. p. 525.

Water Supply.

California's long-range water plan. Engineering News-Record. v. 119, no. 9. August 26, 1937. p. 344-348. Construction features of the Central Valley project, through which water stored on the upper Sacramento is to be pumped up the San Joaquin valley, include two dams, a power station, canals, and pumping stations.

Forecasting mountain water supply by photographing snowfall. By D.D. Gross. Engineering News-Record. v. 119, no. 8. August 19, 1937. p. 310-311. Pictures of snow distribution are taken at regular intervals and correlated with runoff data from watershed.

Grand Lake water project mapped. Western Farm Life. v. 39, no. 16. August 15, 1937. p. 11. Congress appropriates $900,000; work may start next spring.

More water through the Divide. By Charles A. Lory. Western Farm Life. v. 39, no. 13. July 1, 1937. p. c, 27. Hope for Grand Lake transmountain diversion grows as Colorado irrigators consider intrastate compact.

Reoprt of Sacramento-San Joaquin water supervision for year 1936. Sacramento, California. Department of public works. Division of water resources. 1937. 121 p. Mimeographed.

San Luis Rey river investigation. Sacramento, Cal., 1937. 49 p. California. Department of Public Works. Division of Water Resources. Bulletin no. 48-A. Mimeographed.

Water Supply. (Cont'd)

South coastal basin investigation. Summary of hydrological information for the season of 1935-36. Sacramento, California. Department of public works. Division of water resources. 1937. 7 p. Mimeographed.

Underground water conditions in Southern California area. By George S. Hinckley. California Citrograph. v. 22, no.6. April, 1937. p.238. Map shows route of Colorado river aqueduct from Parker dam to Metropolitan water district.

Water resources of the Bad river drainage basin. A preliminary report of the Water resources committee. Brookings, South Dakota, S. Dak. state planning board, 1937. 57 p. Mimeographed. South Dakota, State planning board. v. 3.

Water resources of the Big Sioux river drainage basin. Preliminary report of the Water resources committee. Brookings, South Dakota, S. Dak., state planning board, 1937. 87 p. Mimeographed. South Dakota state planning board. v. 1.

Water resources of the Cheyenne river drainage basin. A preliminary report of the Water resources committee. Brookings, South Dakota, S.Dak. state planning board, 1937. 108 p. Mimeographed. South Dakota state planning board, v. 4.

Water resources of the James river drainage basin. A preliminary report of the Water resources committee. Brookings, South Dakota S. Dak. state planning board, 1937. 129 p. South Dakota. State planning board. v. 2.

Water resources of the Moreau river drainage basin; A preliminary report of the Water resources committee. Brookings, South Dakota, S. Dak. state planning board, 1937. 53 p. Mimeographed. South Dakota. State planning board. v. 5.

Water resources of the Vermillion river drainage basin; A preliminary report of the Water resources committee. Brookings, South Dakota, S. Dak. state planning board, 1937. 52 p. Mimeographed. South Dakota. State planning board. v. 6.

Water resources of the White river drainage basin. A preliminary report of the Water resources committee. Brookings, South Dakota, 1937. 69 p. Mimeographed. South Dakota, State planning board. v.7.

Water Supply, Rural

Camps - with hot and cold running water. Domestic Engineering. v. 150, no. 1. July, 1937. p. 58-59.

Water Supply, Rural. (Cont'd)

Farm home water systems. Utah Farmer. v. 57, no. 22. June 25, 1937. p. 5, 12.

Running water a farm necessity. By E.T. Swink. Electrical Ruralist. v. 1, no. 5. September, 1937. p. 4-5, 23.

Rural water supplies. Columbus, Ohio. Ohio Department of health. Division of Sanitary engineering, 1937. 20 p.

There's no backache in this water system. By W.H. Sheldon. Michigan Farmer. v. 187, no. 9. April 24, 1937. p. 295, 304. Table no.1 shows the friction through 100 feet of pipe of various diameters. Table no.2 indicates the size motor required to lift the different quantities of water in wells of various depths.

Water Systems.

Water systems and tanks. Ohio Farmer. v. 179, no. 13. June 19, 1937. p. 433.

Weeds.

Anti-noxious weed board wages war on Yuma Valley weeds. Reclamation Era. v. 27, no. 9. September, 1937. p. 207. Affairs of Yuma Valley anti-noxious weed district are administered by board of directors, consisting of three members elected at large from district for a term of 2 years. This board appoints an inspector to examine all lands lying within weed-control district, including all rights-of-way of irrigation ditches and all roads, highways, streets, and other thoroughfares. If noxious weeds or grasses are found, notice of their presence is served upon owner or tenant. Board of directors also has right to declare and enforce quarantine against land upon which noxious weeds or grasses are found in order that no article or product of any kind capable of carrying seed of such noxious weeds be removed during period of quarantine. Owner may eradicate such noxious weeds or grasses, but if he fails or refuses to carry through such work to successful completion, board may direct inspector to have such weeds or grasses eradicated and actual cost and expense of this work declared lien upon his land.

Field bindweed a serious weed pest. By J.W. Zahnley and W.F. Pickett. Reclamation Era. v. 27, no. 9. September, 1937. p. 224-225. Prevention is most important consideration where land is free from weed. Every possible precaution should be used to avoid bringing bindweed on farm. It is easier to prevent weed's getting a start than to eradicate it after it is started. All crop seed should be tested for purity before planting. Any seed purchased should bear label of tested seed as prescribed by seed law, and purchaser should insist upon guarantee that seed is free from bindweed seed. Care should also be taken to avoid bringing feed grain, roughage or manure to farm from areas that are infested, and to prevent introduction

Weeds. (Cont'd)

of weed by any other means by which it may be spread. Second important consideration is keeping constantly on the lookout to detect first plants that appear. Isolated plants or small patches are readily seen when in bloom. Main bloom period is usually from about May 15 to June 15, but flowers may appear over much longer period. Flowers are most abundant and conspicuous in forenoon of a bright day following showers. As soon as plant or patch is found, its location should be conspicuously marked by stake or label, and infested area isolated. This area should not be cultivated with remainder of field on account of danger of spreading weed. Small patches can be killed with relatively little trouble and expense, and should be given immediate attention. Sodium chlorate spray method and application of common salt are most widely used and practical means of killing weed when infested area is small. Attempts to eradicate large areas should ordinarily be delayed until small patches are killed. Well-planned system of cultivation and cropping should be used that will reduce danger of spreading the weed. Eradication by intensive cultivation combined with growth of smother crops should ordinarily be started as soon as possible.

Noxious weed control program. By C.L. Corkins. Reclamation Era. v. 27, no. 7. July, 1937. p. 160-163. Two years of experience under this old law and organization pointed out clearly the following facts: 1. Portion of expense of weed eradication must be borne by public funds, or else an enforced eradication program would be confiscatory. This resulted in new State law, which now divides expense equally three ways - to State, to county, and to individual. 2. Continuous clean cultivation is only feasible program of eradication for large acreages of weeds. 3. Due to fact that type of cultivation required to successfully eradicate noxious weeds greatly disrupts ordinary farm practices and requires expensive equipment not available on average farm, only really successful way to handle this program is by means of county equipment operated by county crews. 4. Job of chemical control is too technical for average farmer to use successfully. 5. Known methods of chemical control needed improvement to be sufficiently effective to justify their use. 6. New and improved specialized equipment was necessary for most efficient and economical eradication by cultivation. 7. Organized pest control districts and law enforcement are essential to success in noxious weed control program. 8. Stringent noxious weed seed law should be a part of the program. 9. Trained weed specialists to operate weed district are vital.

Preparing for battle. By Tudor Charles. Kansas Farmer. v. 74, no.41. July, 1937. p. 3, 12. Bindweed war, with the new state law aiding, will be a long fight to the finish.

Wood.

Suitability of woods to various farm uses. Ohio Farmer. v. 179, no. 13. June, 19, 1937. p. 433. Adapted from "Selection of Lumber for Farm and Home Building," a publication of the Forest Products Laboratory of the U.S.D.A.

Wood Preservation.

Minimizing wood shrinkage and swelling. Effect of heating in various gases. By Alfred J. Stamm and L.A. Hansen. Industrial & Engineering Chemistry. Industrial edition. v. 29, no. 7. July, 1937. p. 831-833. Hygroscopicity and subsequent swelling and shrinking of dry wood are decreased by heating in various gases above thermal decomposition temperatures. Greater reductions in hygroscopicity are obtained in oxidizing than in reducing atmosphere for same heating conditions; but, by increasing temperature, equal reductions in hygroscopicity can be obtained in reducing atmospheres. Darkening of wood on heating appears to vary directly with resulting reduction in hygroscopicity, regardless of heating conditions. Soaking in water after heating has but slight tendency to restore original hygroscopicity. Heating wood in water-saturated atmospheres has no permanent effect upon swelling and shrinking.